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USING SIMULATION TO EVALUATE THE PERFORMANCE OF INTERNET PAYMENT SYSTEM: A CASE STUDY ON CYBANK

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ABSTRAK

Sistem Pembayaran Menerusi Internet (IPS) merupakan kaedah terkini bagi mengendalikan transaksi kewangan menerusi Internet. Penggunaannya yang dikatakan tidak efektif telah banyak dibincangkan oleh pelbagai pihak bersama andaian-andaian tentatif. Oleh itu, aspek pertama kajian ini telah disasarkan untuk mengenalpasti masalah dan punca penggunaan yang tidak efektif itu. Hasil kajian mendapati masalah tersebut berpunca dari pengambilan masa yang lama untuk menyudahkan sesuatu transaksi. Beberapa langkah peningkatan prestasi telah dikenalpasti dan pengurusan Cybank perlu membuat perubahan tersebut bagi menarik minat penggunanya. Ini adalah selaras dengan visi pengurusan Cybank yang mahukan Cybank berada di tangga teratas dalam industri IPS. Aspek kedua kajian ini pula merangkumi penggunaan kaedah simulasi yang digunakan untuk memodelkan gelagat operasi Cybank. Teknik ini didapati sangat efektif dalam memodelkan sistem yang begitu kompleks seperti IPS. Teknik ini seterusnya berjaya mencadangkan beberapa perubahan jitu yang patut dibuat ke atas sistem Cybank berdasarkan hasil kuantitatif yang dijana dari kajian ke atas model yang telah dibina.

Katakunci: *Sistem Pembayaran Menerusi Internet, Cybank, Tinjauan Prestasi, Simulasi, Eksperimentasi Model*

ABSTRACT

The Internet Payment System (IPS) is the latest means of doing financial transactions over the Internet. However, its inefficient usage among Internet users has become a prime discussion among many folks and many tentative assumptions were made. Hence, the first aspect of this research was aimed to identify problems and reasons that caused this hindrance. The result indicated the time-consuming factor to process real-time requests, as one of its main deficiency. A few performance enhancement approaches were recognized and Cybank's management was stimulated to counter those predicaments in order to excite its current and potential users in employing Cybank. This is in line with Cybank's vision, which is to be a world class IPS supplier in the IPS industry. The second aspect of this research covered the use of simulation in modeling the operational behavior of Cybank. It has been proven that this technique is very effective in modeling such complex systems like the IPS. The simulation technique has also succeeded in recommending appropriate and sound changes that could be implemented on Cybank, based on the quantitative result acquired from experiments performed on the built model.

Keyword: *Internet Payment System, Cybank, Performance Survey, Simulation, Model Experimentation*

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CHAPTER 1
INTRODUCTION

1.1 Background

The Internet, which is a powerful medium for digital communication, has made a tremendous impact on our individual lifestyles and way of life. Penetration of knowledge in the Internet field is acknowledged as a vital dynamism that can help a nation excel in administration, management, social development, economy and other areas. This is because the Internet has dramatically evolved from being a means of conveying information to being a dynamic platform of communicating and doing businesses. In general, Internet has become the reality of today, the accepted new wave and way of integrating commercial services with the wizardry of an electronic marketplace. It has undoubtedly become a most dynamic business for small medium enterprises (SME) to compete at the international and global market.

Thus remarkable changes in the business world have given a rise to the 'Internet business' word where men trade everything on the Net and in the process promote and a better competitive edge in the business world. The Internet has empowered a stronger and faster developing economy in accelerating the rivalry of healthy competition through globalization and liberalization. In particular, the estimated number of Internet and personal computer (PC) penetration by Malaysians that is acquired from local Internet Service Providers (IPS) is 2.2 million users for year 2000 (Abdullah, 2001). This figure, demonstrates the growth of computer literacy level among Malaysians and serve our eloquent testimony of Malaysia's capability to compete in this knowledge-based economy (k-economy) era.

Today, the Internet is the most favored and efficient way for performing financial transactions. This inevitably gave a boost in the Internet Payment System (IPS) technology. Malaysians, who are versatile and knowledgeable of the Internet and IPS, would be poised to empower better efficiency, productivity and profitability in

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